

### REMARKS

Claims 1-52 are pending. Claims 1, 5-11, 14-18, 29, and 41-43 are rejected under 35 U.S.C. § 102(b). Claims 2-4, 19-26, 30-34, 37-40, and 44-52 are rejected under 35 U.S.C. § 103(a). Claims 12-13, 27-28, and 35-36 are rejected as being dependent upon a rejected base claim. Independent claims 14 and 41 are amended.

Independent claims 1 and 29 are rejected under 35 U.S.C. § 102(b) as being anticipated by Haartsen (Bluetooth-The universal radio interface for *ad hoc*, wireless connectivity). Referring to Figure 3B, there is a block diagram of a communication circuit according to an embodiment of claim 1. Figure 4A illustrates a frequency hopping sequence 41 corresponding to Figure 3B. Claim 1 recites "A communication circuit (Figure 3B), comprising: a signal processing circuit (370) arranged to produce a first plurality of data signals ( $S_1$ ) and receive a second plurality of data signals ( $M$ ); a transmit circuit coupled to receive the first plurality of data signals, the transmit circuit arranged to transmit each data signal of the first plurality of data signals on a respective transmit frequency ( $S_1/f_2, S_1/f_4, S_1/f_6 \dots$ ) in a predetermined sequence of transmit frequencies ( $f_2, f_4, f_6 \dots$ ); and a receive circuit coupled to receive each data signal of the second plurality of data signals from a remote transmitter on the respective transmit frequency ( $M/f_2, M/f_4, M/f_6 \dots$ ) in the predetermined sequence, the receive circuit applying the second plurality of data signals to the signal processing circuit." (identification added). Therefore, the frequency hopping pattern 41 (Figure 4A) differs from the normal frequency hopping pattern 40 in that master device  $M$  always transmits on the same frequency as the immediately preceding slave device  $S_1$  transmission. (page 9, lines 21-23). This modified frequency hopping pattern advantageously satisfies equation [2] and produces significant performance improvement over previous frequency hopping patterns. (page 6, line 26 through page 7, line5).

By way of comparison, Haartsen fails to disclose such a frequency hopping pattern. Haartsen discloses a frequency hopping pattern at Figure 2 ( $f_k, f_{k+1}, f_{k+2}$ ) wherein each frequency

corresponds to a respective 625  $\mu$ s time slot. Haartsen specifically teaches that a different hop frequency is used for each time slot. (page 112, right column, last paragraph). Moreover, Haartsen fails to teach or suggest either the problem or solution of the present invention. Thus, claim 1 and depending claims 2-13 are patentable under 35 U.S.C. § 102(b) over Haartsen.

Referring to Figure 4A, there is a frequency hopping sequence 41 corresponding to communication circuits of Figures 3A and 3B. Claim 29 recites "A method of communicating with a remote communication circuit (Figure 3A), comprising the steps of: transmitting a first plurality of data signals ( $S_1$ ) to the remote communication circuit on a first sequence of respective frequencies ( $f_2, f_4, f_6 \dots$ ); and receiving a second plurality of data signals ( $M$ ) from the remote communication circuit on the first sequence of respective frequencies ( $f_2, f_4, f_6 \dots$ )." (identification added). As previously discussed, Haartsen fails to disclose such an arrangement. Haartsen discloses a frequency hopping pattern at Figure 2 ( $f_k, f_{k+1}, f_{k+2}$ ) wherein each frequency corresponds to a respective 625  $\mu$ s time slot. Haartsen specifically teaches that a different hop frequency is used for each time slot. (page 112, right column, last paragraph). Moreover, Haartsen fails to teach or suggest either the problem or solution of the present invention. Thus, claim 29 and depending claims 30-40 are patentable under 35 U.S.C. § 102(b) over Haartsen.

Independent claims 14 and 41 are rejected under 35 U.S.C. § 102(b) as being anticipated by Acampora et al. (System Applications for Wireless Indoor Communications). Independent claim 14, as amended, recites "A communication circuit, comprising: a plurality of antennas coupled to receive a first data signal from a remote transmitter *on a respective frequency of a frequency hopping pattern* and transmit a second data signal *on the respective frequency*; a measurement circuit coupled to receive the first data signal from the plurality of antennas, the measurement circuit arranged to measure the first data signal from each antenna and produce a respective weighting coefficient corresponding to said each antenna; and a transmit circuit coupled to receive the second data signal, the transmit circuit arranged to multiply the second data signal by the respective weighting coefficient corresponding to said each antenna, thereby producing a respective weighted second data signal corresponding to said each antenna, the transmit circuit arranged to

apply the respective weighted second data signal to the corresponding said each antenna.” (emphasis added).

Independent claim 41, as amended, recites “A method of communicating with a remote communication circuit, comprising the steps of: receiving a first data signal from a plurality of antennas *on a respective frequency of a frequency hopping pattern*; calculating a respective weighting coefficient corresponding to each antenna of the plurality of antennas; multiplying a second data signal by the respective weighting coefficient of said each antenna, thereby producing a respective second weighted data signal corresponding to said each antenna; and transmitting each said respective second weighted data signal at the corresponding said each antenna of the plurality of antennas *on the respective frequency*.” (emphasis added). As previously discussed with respect to Haartsen, Acampora et al. fail to disclose such a frequency hopping pattern. Moreover, neither reference teaches or suggests the problem or solution of the present invention. Thus, applicants respectfully submit that claims 14-28 and 41-52, as amended, are patentable under 35 U.S.C. § 102(b) over Acampora et al.

Applicants has acknowledge the rejections of depending claims 2-11, 15-26, 30-34, 37-40, and 42-52 under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a), but consider them moot in view of the present amendment as discussed.

In view of the foregoing, applicants respectfully request reconsideration and allowance of claims 1-52. If the Examiner finds any issue that is unresolved, please call applicants' attorney by dialing the telephone number printed below.

Respectfully submitted,



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